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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,126	10/28/2003	Richard L. Antrim	006401.00433	6117
22908 7590 01/24/2008 BANNER & WITCOFF, LTD. TEN SOUTH WACKER DRIVE SUITE 3000 CHICAGO, IL 60606			EXAMINER HANLEY, SUSAN MARIE	
			ART UNIT 1651	PAPER NUMBER
			MAIL DATE 01/24/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/695,126

Applicant(s)

ANTRIM ET AL.

Examiner

Susan Hanley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 is/are allowed.
- 6) ☒ Claim(s) 5 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

The amendment and remarks filed 8/15/07 are acknowledged.

Claims 1-5 are pending and under examination.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Specification*

The abstract filed 10/28/03 is accepted since the amendments to the claims are now in concert with the abstract as filed.

The amendment to the specification regarding the continuing data overcomes the objection.

The specification remains objected to because on page 3 there is a reference to a co-pending application by no serial number is specified.

### *Withdrawal of Rejections*

The rejection not explicitly restated below are withdrawn due to Applicant's response in the amendment filed 8/15/07.

Applicant's arguments filed 8/15/07 are considered to be moot in light of new grounds of rejection.

### *Claim Objections*

Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 4 recites the limitation "comprising treating said starch with

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said enzyme to form said dextrin". This limitation is already recited in claim 1, from which it depends.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baines et al. (US 4,886,659) in view of Kaper et al. (US 4,780,149; cited in the IDS filed 9/23/05) and Gore et al. (US 2,000,169).

Baines discloses a process for producing distinctive color compositions comprising the steps of combining two types of Maillard reactants in an aqueous mixture and exposing the aqueous mixture to spray drying, thereby producing a colored composition for food, cosmetic or pharmaceutical coloring. The two types of Maillard reactants include (1) aldose or ketose sugars and (2) one or more amino acids (abstract; col. 2, lines 24-34). In one embodiment, the amino compounds and the aldose or ketose sugar are dry mixed or homogenized. A water-soluble spray dry carrier material such as a maltodextrin, starch or gum is then added to the mixture which is then spray dried according to conventional methods. Baines discloses amino acids (col. 3) as one type of Maillard reactant and provides a list of alternative aldose and ketose sugars which includes maltose (col. 4). In Examples 1 and 4-13, Baines discloses that a maltodextrin is the carrier for the genus of carrier species. Therefore, Baines discloses a method of spray drying a color composition

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comprising dry-mixing or homogenizing together a sugar comprising a genus that includes maltose, and an amino acid in an aqueous solution (e.g., the sugar- or maltose-containing product) and admixing with a carrier such as a maltodextrin to form a composition that is spray dried.

Baines does not specifically disclose that the sugar specie is maltose (e.g., a maltose/amino acid mixture) or that the maltodextrin carrier material is prepared by hydrolyzing starch with a  $\beta$ -amylase.

Kaper discloses the preparation of a maltose/  $\beta$ -limit dextrin composition by contacting starch with  $\beta$ -amylase, followed by  $\alpha$ -amylase treatment, and precipitation of the retrograded amylose and separation from the  $\beta$ -dextrin/maltose-containing solution by centrifugation or filtration. See column 1, lines 44-52; and in particular column 3, lines 1-25 discussing the embodiment wherein the precipitated amylose is removed from the dextrin and maltose-containing solution. Note further that the process is recited in open "comprising" language, which encompasses the additional steps recited in the reference. Kaper teaches that the disclosed maltose/  $\beta$ -limit dextrin composition is useful in food and pharmaceutical products and that  $\beta$ -limit dextrans can also be used as a carrier of dried liquids (col. 3, lines 26-39). Furthermore, the disclosed maltose/ $\beta$ -limit dextrin composition can be spray dried in spite of a high maltose concentration (col. 2, lines 57-63).

It is still further noted that the claims recite the enzyme composition as one "consisting essentially of"  $\beta$ -amylase. It is also noted that the process of Kaper uses  $\alpha$ -amylase in addition to  $\beta$ -amylase. However, MPEP § 2111.03 clearly states that "[t]he transitional phrase 'consisting essentially of' limits the scope of a claim to the specified materials or steps 'and those that do not materially affect the basic and novel characteristic(s)' of the claimed invention." (Citations

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omitted, emphasis in original.) Moreover, MPEP § 2111.03 states that claims recited in "consisting essentially of" language should be construed as if recited in open "comprising" language, absent some evidence that the additional ingredients in the prior art process/product materially affect the basic and novel properties of the claimed invention:

For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See, e.g., *PPG [Industries v. Guardian Industries]*, 156 F.3d at 1355, 48 USPQ2d at 1355 ("PPG could have defined the scope of the phrase 'consisting essentially of' for purposes of its patent by making clear in its specification what it regarded as constituting a material change in the basic and novel characteristics of the invention."). See also *In re Janakirama-Rao*, 317 F.2d 951, 954, 137 USPQ 893, 895-96 (CCPA 1963).

On the current record there is no evidence that the  $\alpha$ -amylase would affect the basic and novel properties of the prior art process such that the prior art process is truly different than the claimed process. Thus, applicant's claims must be construed as if reciting "comprising" language, thereby encompassing the additional ingredients in the prior art process, despite the "consisting essentially of" language. A holding of anticipation/obviousness is therefore required.

Lastly, note specifically that MPEP 2111.03 further provides that "[w]hen an applicant contends that additional steps or materials in the prior art are excluded by the recitation of 'consisting essentially of,' applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention."

(Citations omitted.)

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Gore et al. disclose that syrups are known to form gas due to decarboxylation in said syrup as a result of the Maillard reaction between sugars such as maltose with leucine and other amino acids (bridging paragraph between the columns on first page).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a dextrin comprising a maltose/ $\beta$ -dextrin produced by hydrolyzing starch with  $\beta$ -amylase according to the method of Kaper for the carrier to spray dry an aqueous mixture of maltose and an amino acid in the method of Baines. The ordinary artisan would have been motivated to do so because Kaper specifically recommends maltose/ $\beta$ -dextrin as a carrier of dry liquids in food. The ordinary artisan would have had a reasonable expectation that the maltose/ $\beta$ -dextrin of Kaper could serve as a carrier for spray drying because he demonstrated that said maltose/ $\beta$ -dextrin could be satisfactorily dried by a spraying process.

It would have been obvious to one of ordinary skill in the art to select maltose as the sugar reactant for the Maillard reaction disclosed by Baines. In the examination of claims directed to species of chemical compositions based upon a sin In section 2144.08, the MPEP provides guidelines for the determination of obviousness of species when the prior art teaches a genus:

When a single prior art reference which discloses a genus encompassing the claimed species or subgenus but does not expressly disclose the particular claimed species or subgenus, Office personnel should attempt to find additional prior art to show that the differences between the prior art primary reference and the claimed invention as a whole would have been obvious.

In the instant case, Baines teaches maltose as a specie in the genus of sugars for a Maillard reaction with amino acids. Baines does provide a composition with the maltose species. However, Gore teaches that maltose is a reactive sugar for the reaction with amino acids in the Maillard reaction. Thus, the ordinary artisan would be motivated to choose maltose for the sugar/amino

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acid/maltodextrin composition for spray drying because Gore specifically points to maltose as a suitable sugar specie for said Maillard reaction. The ordinary artisan would have had a reasonable expectation that maltose would serve its purpose as a sugar reactant for the Maillard reaction with an amino acid because Gore exemplifies maltose as a well known sugar specie for this reaction.

The step relating to providing an amount of a dextrin to enhance the susceptibility of the maltose-containing product to be spray-dried is considered to be a mental step in the absence of any physical steps to determine this optimization. However, Baines meets these limitations because the disclosure of the desired relative amounts of sugar and maltodextrin are provided to optimize the spray-drying qualities of the mixture to form the desired dense product.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Hanley whose telephone number is 571-272-2508. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Patent Examiner  
AU 1651

SANDRA E. SAUCIER  
PRIMARY EXAMINER  
